



# Virginia Biological TMDLs: Issues, Challenges and Opportunities

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# Issues, Challenges and Opportunities

- Bioassessment/Impairment Listing
- Stressor Identification
- TMDL Endpoint
- Modeling Approaches
- Attainability of Reductions/  
Water Quality Goals

# Bioassessment/ Impairment Listing

- Currently use fully established RBPII protocol
- Supported by VA SCI scores, full transition expected for 2008
- Review of biological data prior to TMDL development to confirm impairment
  - 7 segments delisted, 59 with draft or approved TMDLs
  - High confidence in findings and process

# Stressor Identification and TMDL Endpoint

- Includes review of biological, habitat, water quality and sediment data
- Additional data collected if needed/possible
  - Toxicity bioassays, DO, various toxicants in water column and sediment, ...
- Identify possible and most probable stressor(s) based on water quality criteria, un-impaired reference watershed, regional data sets

# Stressor Identification and TMDL Endpoint

- Select TMDL endpoint(s) based on most probable stressor(s)
  - May be identical or surrogates
  - Proposed selection presented to watershed stakeholders in advisory groups and/or at public meetings

# Modeling Approaches

- Depending on TMDL endpoint
  - Reference watershed loadings, e.g. sediment or nutrients (GWLF)
  - In-stream water quality concentrations (HSPF, ...)
  - In-stream sediment concentrations (GWLF coupled with MINTEQ, ...)
  - In-stream biomass (GWLF or HSPF coupled with QUAL2E or WASP)
- Establish best possible model to match pollutant and specific conditions in watershed and stream

# Implementation/ Attainability

- Reasonable, technologically achievable implementation goals
- WQS requirements for which uses are considered attainable
- TMDL review process
- TMDL modification process
- UAA process

# WLA Implementation Options

- Effluent limits equivalent to WLA
- Numeric limits equal to WLA
- Requirements for Best Management Practices (BMPs) in lieu of numeric limits



# LA Implementation Options

- No new implementation authorities through TMDL program
- Through available programs
- Incentive-based
- Voluntary

# LA Implementation Options, cont.

- Examples that might apply for benthic impairments:
  - PREP (pollution response),
  - VWP (stream restoration),
  - VRP, CERCLA, RCRA, Site Assessment (waste sites),
  - AML reclamation (abandoned mine lands)
  - Ag Cost-Share, CREP, ASA (agriculture),
  - WQIF (various)
  - Localities' programs (various)



# Meeting Objective

Provide a forum for interested individuals and groups to inform the TMDL agencies of their interests and concerns regarding the TMDL process for biological TMDLs

# Discussion

- Impairment Listing
- Stressor Identification
- TMDL Endpoint
- Modeling Approaches
- Attainability of Reductions/  
Water Quality Goals

